

## CLAIMS

## What Is Claimed Is:

1. An aqueous ink-jet ink composition exhibiting a reduction in aerosol formation during printing, comprising:

- 5           a)     an effective amount of an ink vehicle;  
            b)     an effective amount of at least one ink colorant; and  
            c)     from 5 to 200 ppm by weight of a high molecular weight polysaccharide.

2. An ink-jet ink composition as in claim 1 wherein said polysaccharide has an  
10   average molecular weight from 200,000 to 5,000,000.

3. An ink-jet ink composition as in claim 2 wherein said polysaccharide has an  
average molecular weight from 1,000,000 to 5,000,000.

15           4. An ink-jet ink composition as in claim 1 wherein said polysaccharides have a  
Trouton ratio from about 3 to 10.

20           5. An ink-jet ink composition as in claim 1 wherein said polysaccharide is present  
at from 10 ppm to 80 ppm by weight.

6. An ink-jet ink composition as in claim 5 wherein said polysaccharide is present  
at from 15 ppm to 50 ppm by weight.

25           7. An ink-jet composition as in claim 1 wherein said ink colorant is a member  
selected from the group consisting of Food Black 2, Direct Black 19, Direct Black 51,  
Direct Black 109, Direct Black 154, Direct Blue 86, Direct Blue 199, Direct Red 9, Direct  
Red 32, Acid Yellow 23, Acid Blue 185, Acid Blue 9, Acid Red 17, Acid Red 52, Acid  
Red 249, Reactive Red 180, and combinations thereof.

30           8. An ink-jet ink composition as in claim 1, comprising:  
            a)     from 0.05% to 2% solid by weight of an ink colorant;  
            b)     from 8% to 30% by weight of at least one lower alkyl diol;

- c) from 0% to 2% by weight of a buffer;
- d) from 0% to 0.3% by weight of a biocide; and
- e) about 5 to 200 ppm by weight of at least one high molecular weight polysaccharide.

5

9. A method of printing an image on a substrate with reduced satellite spotting around the image on the substrate, comprising:

- a) providing an ink-jet ink composition, comprising:
  - (i) an effective amount of an ink vehicle; and,
  - 10 (ii) an effective amount of an ink colorant; and,
  - (iii) from 5 to 200 ppm by weight of a high molecular weight polysaccharide; and
- b) jetting said ink-jet ink composition from an ink-jet pen, wherein aerosol formation of the ink-jet ink composition is substantially reduced resulting in a substantial reduction in satellite spotting around the image.

15

10. A method as in claim 9 wherein said polysaccharide has an average molecular weight from about 200,000 to 5,000,000.

20

11. A method as in claim 9 wherein said polysaccharide has a Trouton ratio from about 3 to 10.

25

12. A method as in claim 9 wherein said polysaccharide is present at from 10 ppm to 80 ppm.

13. A method as in claim 12 wherein said polysaccharide is present at from 15 ppm to 50 ppm.

14. A method as in claim 9 wherein said ink colorant is a member selected from the group consisting of Food Black 2, Direct Black 19, Direct Black 51, Direct Black 109, Direct Black 154, Direct Blue 86, Direct Blue 199, Direct Red 9, Direct red 32, Acid

30

Yellow 23, Acid Blue 185, Acid Blue 9, Acid Red 17, Acid Red 52, Acid Red 249, Reactive Red 180, and combinations thereof.

15. A method as in claim 9 wherein said ink vehicle comprises:

- 5 a) from 0.05% to 2% solid by weight of an ink colorant;
  - b) from 8% to 30% by weight of at least one lower alkyl diol;
  - c) from 0% to 2% by weight of a buffer;
  - d) from 0% to 0.3% by weight of a biocide; and
  - e) from 5 to 200 ppm by weight of at least one high molecular weight
- 10 polysaccharide.

16. A system for producing ink-jet ink images having reduced satellite spotting, comprising:

- 15 a) an ink-jet ink composition comprising:
  - (i) an effective amount of an ink vehicle,
  - (ii) an effective amount of at least one ink colorant, and
  - (iii) from 5 to 200 ppm by weight of a high molecular weight polysaccharide; and
- 20 b) an ink-jet pen containing said ink-jet ink composition, said ink-jet pen configured to jet said ink-jet ink composition onto a substrate.

17. A system as in claim 16 wherein said polysaccharide has an average molecular weight from about 200,000 to 5,000,000.

25 18. A system as in claim 16 wherein said polysaccharide is present at from 10 ppm to 80 ppm by weight.

19. A system as in claim 18 wherein said polysaccharide is present at from 15 ppm to 50 ppm by weight.

30

20. A system as in claim 16 wherein the ink-jet pen is selected from the group consisting of a thermal ink-jet pen and a piezo ink-jet pen.